Form	t 1 of 8	RECEIVED	DOCKET NO. 22253-70421 APPLN. NO. 10/03/256 E007 9 0 NVC		
1	PF		DOCKET NO. 22253-70421	LCH CENTED 1000	
No.		S. Department of Challed 2003	2 001237 1(0. 22233-70421	EUUZ Q A NWC	
 	317	DE Filed: De TECH DEATER 1600/2900		, c. u.,	
G DET	, -	1000/2900	FILING DATE: 12/21/2001	RECEIVE	
NA CONTRACTOR	01	OTHER DOCUMENT(S) (Including			
124	ETHAL	kinase Hek11 in early human B lymphopoiesis."	ora I "Unaniletad	Eph-related receptor tyrosine	
1	02	1 round, N. II., WIKINSON, (I A Weise (' Diell.	o E Colo M III D	u W and VI.: D (D)	
1					
	03				
1			obers of the FGF family are amplifi	eur, P., Birnbaum, D., and	
+	04	cancers." Oncogene 6: 659–663 (1991).		ed in subsets of human breast	
	07		Richardson, M., Kreis, M., Shewry,	P., and Halford, N.	
		kinase cDNA." Proc. Natl. Acad. Sci. USA 88: 86	100al regulation of carbon metabolis	m in yeast, by a plant protein	
	05	Andres, AC., Zuercher, G., Dionov V. Flueck 1	M and Tinmin 1: A um	ine kinase evaression during	
+	06	the estrous cycle and carcinogenesis of the mamm	ary gland." Int. J. Cancer 63: 288-2	96 (1995).	
1		Becker, W., Heukelbach, J., Kentrup, H., and Joos mammalian protein kinase harboring a homology (Eur. J. Biochem. 235: 736–743 (1996)			
	07	Eur. J. Biochem. 235: 736–743 (1996).	ornant diat defines a sub-family of	serme/threonine kinases."	
1	07	Bergemann, A. D., Zhang, L., Chiang, M. K., Brar the receptor EphB3, expressed at the midling of the	nbilla, R., Klein, R., and Flanagan, I	G. "Ephrin-B3, a ligand for	
+	08	Bessone, S., Vidal, F., Le Bouc, V. Englbaum, I.	Disease Deise N. C. Concogen	e 16: 471–480 (1998).	
			lterations in the somatotrone and pro	"EMK protein kinase-null	
+	09	214: 87-101 (1999).		nacim painways." Dev. Biol.	
	10	Betzl, G., Brem, G. and Weidle, U. H. "Epigenetic mammary tumor virus LTR: tissue-dependent influ	modification of transgenes under th	e control of the mouse	
\bot		719 (1996).	ence on transcription of the transger	nes." Biol. Chem. 377: 711-	
	10	Bishop, D. F., Calhoun, D. H., Bernstein, H. S., Ha galactosidase A: Nucleotide sequence of a cDNA	ntzopoulos, P., Quinn, M., and Desr	ick, R. J. "Human alpha	
		galactosidase A: Nucleotide sequence of a cDNA c 83: 4859–4863 (1986)	lone encoding the mature enzyme."	Proc. Natl. Acad. Sci. USA	
7	11	Bocchinfuso, W. P. and Korach, K. S. "Mammary	cland doval		
+	12	knockout mice." J. Mamm. Gland Biol. Neoplasia 2	2: 323-334 (1997).	is in estrogen receptor	
}	12	Domin, In., Drinkmann, V., Drah M. Henske A. a.	Vumahalia T M (O.	omologues of C. elegans	
		(1997).	is and may influence their polarity.	" Curr. Biol. 7: 603–606	
	13	Brinkley, P. M., Class, K., Bolen, J. B., and Penhall murine ctk gene." Gene 163: 179-184 (1995)	ow, R. C. "Structure and developme	ental regulation of the	
+	14	murine ctk gene." Gene 163: 179–184 (1995). Buhler T A Dale T C Kinhael C H.	7	regulation of the	
		Buhler, T. A., Dale, T. C., Kieback, C., Humphreys, Wnt-2 gene expression in mouse mammary develop			
	15	ounce, i.e. G., Claven, R. J., Weiner, I. M., and I.m.	E. T. "Novel protein kinases expre	ssed in human branct	
 					
		Cardiff, R. D., and Muller, W. J. "Transgenic mouse (1993).	models of mammary tumorigenesis	." Cancer Surv. 16: 97-113	
	17	Cardiff, R. D., Sinn, E., Muller, W., and Leder, P. "I genotype." Am. J. Pathol. 139: 495-501 (1901)	ransgenic oncogene mice. Tumor n	hanotime 1'	
	18	genotype." Am. J. Pathol. 139: 495-501 (1991).		nenotype predicts	
		Carling, D., Aguan, K., Woods, A., Verhoeven, A. J. and Scott, J. "Mammalian AMP-activated protein kir	, Beri, R. K., Brennan, C. H., Sidebo	ottom, C., Davison, M. D.,	
in the regulation of carbon metabolism." I Riol Cham 260, 11442, 11442, 11443					
	19	Carlson, M., Osmond, B., and Botstein, D. "Mutants (1981).	of yeast defective in sucrose utilizat	ion." Genetics 98: 25_40	
\dashv	20	Celenza, J. L., Eng F. L. and Carlson M. 1944	1	00.0 70. 23-40	
F	1	Celenza, J. L., Eng, F. J., and Carlson, M. "Molecula Evidence for physical association of the SNF4 protein (1989).	r analysis f the SNF4 gene of Sacch	aromyces cerevisiae:	
.	(the Start protein kinase." Mo	ol. Cell. Biol. 9: 5045-5054	
	r Sign	ature: French Fottu	Date Considered:	N al ata	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. PTO-1449.doc

473492_1

RECLIVEU

Sheet 2 of 8			JAN 0 8 2003		RECEIVED		
Ψot	LAU REL	_	49		- CIVED		
		ઇ	U.S. Department of CommeNIER 1600/2900	DOCKET NO. 22253-70421	APPLN, NO. 10/032,256		
3	9 2002	히	o.s. Department of Commercent 1444/2444	APPLICANT: Lewis A. Chodosh	700 - 11 0 0 2003		
			Date Filed: December 31, 2002	APPLICANT. Lewis A. Chodoshy	CENTED		
	ABK	æ G		FILING DATE: 12/21/2001	GROUP 1645 1600/290(
De.	, ak	3	OTHER DOCUMENT(S) (Including	Author, Title Date Pertinent Pages	otc)		
UEM	1	21	Cho, R. J., Campbell, M. J., Winzeler, E. A., So	einmetz, L., Conway, A., Wodicka, I	Wolfsherg T G		
V 1			Gabrielian, A. E., Landsman, D., Lockhart, D.	J., and Davis, R. W. "A genome-wide	transcriptional analysis of		
BF			mitotic cell cycle." Mol. Cell 2: 65-73 (1998).				
and Wang, M. "Mammary gland development, reproductive			Chodosh, L. A., D'Cruz, C. M., Gardner, H. P., Ha, S. I., Marquis, S. T., Rajan, J. V., Stairs, D. B., Wang, J. Y.,				
			and Wang, M. "Mammary gland development,	reproductive history, and breast cance	er risk." Cancer Res. 59:		
	1	22	1765–1771S (1999).				
- 1		23	Chodosh, L. A., Gardner, H. P., Rajan, J. V., St	airs, D. B., Marquis, S. T., and Leder	, P. A. "Protein kinase		
+		24	expression during murine mammary development." Dev. Biol. 219: 259-276, (2000). Ciriacy, M. "Isolation and characterization of yeast mutants defective in intermediary carbon metabolism and in				
- [27	carbon catabolite repression." Mol. Gen. Genet.	east mutants defective in intermediary	y carbon metabolism and in		
+		25	Copeland, N. G., and Jenkins, N. A. "Developm	ent and applications of a malacular	amatic 1:-1		
1	1		mouse genome." Trends Genet. 7: 113-118 (19	91)	eneue mikage map of the		
1		26	Delabar, J. M., Theophile, D., Rahmani, Z., Che	ettouh, Z., Blouin, J. L., Prieur M. N	oel B and Sinet P M		
1			"Molecular mapping of twenty-four features of	Down syndrome on chromosome 21.	" Eur. J. Hum. Genet. 1: 11		
			124 (1993).				
		27	Di Fiore, P., Pierce, J. H., Fleming, T. P., Hazan, R., Ullrich, A., King, C. R., Schlessinger, J. and Aaronson, S. A.				
- [- 1		"Overexpression of the human EGF receptor co	nfers an EGF-dependent transformed	phenotype to NIH 3T3 cell		
1		28	Drewes, G., Ebneth, A., Preuss, U., Mandelkow	, E. M., and Man-delkow, E. "MARK	, a novel family of protein		
kinases that phosphorylate microtubule-associated proteins and trigger micro-tubule disruption." Cell 8 (1997).				disruption." Cell 89: 297–3			
\dashv	-	29	Dymecki, S. M., Niederhuber, J. E., and Deside	rio C V "Specific composition of the			
- 1	ļ		lymphoid cells." Science 247: 332–336 (1990).	no, 5. v. Specific expression of a ty	rosine kinase gene, bik, in i		
\neg		30	Elson, A., and Leder, P. "Protein-tyrosine phosp	hatase ensilon. An isoform specifica	Ily evnressed in mouse		
			mammary tumors initiated by v-Ha-ras or neu."	J. Biol. Chem. 270; 26116-26122 (1	995).		
T		31	Fan, C. M., Kuwana, E., Bulfone, A., Fletcher, (C. F., Copeland, N. G., Jenkins, N. A.,	Crews S Martinez S		
1			Puelles, L., Rubenstein, L. R., and Tessier-Lavig	gne, M. "Expression patterns of two n	nurine homologs of		
١			Drosophila single-minded suggest possible roles	s in embryonic patterning and in the p	athogenesis of Down		
+		32	syndrome." Mol. Cell. Neurosci. 7: 519 (1996).				
1		³²	Ferrari, S., Manfredini, R., Tagliafico, E., Grand	le, A., Barbieri, D., Balestri, R., Pizza	nelli, M., Zucchini, P., Citr		
1			G., Zupi, G., et al. "Antiapoptotic effect of c-fes S91-94 (1994).	protooncogene during granu-locytic	differentiation." Leukemia		
		33	Fields, S., and Song, O. "A novel genetic system	to detect protein_protein interaction	" Natura 240, 245, 246		
•		_	(1989).	detect protein-protein interactions	5. IVAILUTE 34U: 243–240		
		34	Fox, G. M., Holst, P. L., Chute, H. T., Lindberg,	R. A., Janssen, A. M., Basu, R., and	Welcher, A. A. "cDNA		
- []			cloning and tissue distribution of five human EP	H-like receptor protein-tyrosine kinas	ses." Oncogene 10: 897-90		
	$\sqcup \bot$		(1995).		_		
	E	35	Ganju, P., Walls, E., Brennan, J., and Reith, A. I). "Cloning and developmental expre-	ssion of Nsk2, a novel		
	 	26	receptor tyrosine kinase implicated in skeletal m	yogenesis." Oncogene 11: 281–290 (1995).		
	1 .	36	Gavin, B. J. and McMahon, A. P. "Differential r	egulation of the Wnt gene family duri	ng pregnancy and lactation		
suggests a role in postnatal development of the mammary gland." <i>Mol. Cell. Biol.</i> 12: 241		2418-2423 (1992).					
Guo, S. and Kemphues, K. "par-1, a gene required for establishing polarity in C. elegans embryos, encouputative ser/thr kinase that is asymmetrically distributed." Cell 81: 611-620 (1995).				ins embryos, encodes a			
38 Guy, C. T., Muthuswamy, S. K., Cardiff, R. D., Soriano, P., and Muller, W. J. "Activation of the c-Src tyrosine					tion of the a Castanaire		
kinase is required for the induction of fnammary tumors in transgenic mice." Genes Dev. 8: 23–32 (1994).					Nev 8. 22_22 (1004)		
0	_ :	39	Hanks, S. K., Quinn, A. M., and Hunter, T. "The	protein kinase family: Conserved fea	tures and deduced		
BF	l		phylogeny of the catalytic domains." Science 24	1: 42–52 (1988).	os ana acadecea		
		Cian	ature: Brown Extral	Date Considered			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s). PTO-1449.doc

RECEIVED

RECEIVED

	~				-	ILUCIVED
		heet 3				
	F	orm P	TO-14	JAN 0 3 2003	·	IAN O.C.
	Ł	PE	_	JAIA A A FOOD	DOCKET NO. 22253-7042	AN 0 6 2003 APPLN. NO. 10/032,256
/	P'	, , ~	\sim	U.S. Departmen December 31, 2002	TECH	ATT EN. NO. 10/032,250
/			(C)	CUIT LENTER 1600/2000	ADDITION TO A Charles	CENTED 4000
			(g)	Date Filed: December 31, 2002	APPLICANT: Lewis A. Chodosh,	eral/LN 1600/2900
	ntc	3 1 20	02 u	Date Filed: December 31, 2002		-0/2000
	L		ဋ		FILING DATE: 12/21/2001	GROUP 1645
			a de	OTHER DOCUMENT(S) (Including	Author, Title, Date, Pertinent Pages,	etc.)
₹,		0/	#0	Hanks, S., and Quinn, A. "Protein kinase catalyti	ic domain sequence database: Identif	ication of concerned features
`	Hanks, S., and Quinn, A. "Protein kinase catalytic domain sequence database: Identification of conserved fe of primary structure and classification of family members." Methods Enzymol. 200: 38-79 (1991).					
	\vdash	<u> </u>	41	Hardie, D. G. "Roles of the AMP-activated/SNF1	protain kings family in the	5-79 (1991).
	ľ	1	'	Soc. Symp. 64: 13–27 (1999).	protein kinase family in the respons	e to cellular stress." Biochem.
	<u> </u>	 	42	Hardia D. C. C. I. D. 117.16. 1.37.479.1	0.1 0 0 0 0 0	
	1	1	42	Hardie, D. G., Carling, D. and Halford, N. "Roles	of the Snf1/Rkin1/AMP-activated p	rotein kinase family in the
	L	1		response to environmental and nutritional stress."	Semin. Cell Biol. 5: 409-416 (1994)).
		١	43	Hardie, D. G., Corton, J., Ching, Y. P., Davies, S.	P., and Hawley, S. "Regulation of li	pid metabolism by the AMP-
		1		activated protein kinase." Biochem. Soc. Trans. 2.	5: 1229–1231 (1997).	,
			44	Hardie, D. G., Salt, I. P., Hawley, S. A., and Davi	es S P "AMP-activated protein kin	age: An ultragangitive quatern
		- 1		for monitoring cellular energy charge." Biochem.	I 338: 717_722 (1000)	dase. An uluasensitive system
	\vdash	+	45	Henderson D. C. Doss D. V. and Damet Y 40	0. 330. 111-122 (1999).	1 3:1
	1	1	*	Henderson, B. E., Ross, R. K. and Bernstein, L. "	esurgens as a cause of human cance	r: the Kichard and Hinda
	<u> </u>			Rosenthal Foundation Award Lecture." Cancer R	es 48: 246-253 (1988).	
	l	1	46	Herve, D., Rogard, M., and Levi-Strauss, M. "Mo	lecular analysis of the multiple Golf	alpha subunit mRNAs in the
	ı	1		rat brain." Brain Res. Mol. Brain Res. 32: 125-13	4 (1995).	-
			47	Heyer, B. S., Warsowe, J., Solter, D., Knowles, B	. B., and Ackerman, S. I. "New mer	mber of the Snf1/AMPK
i		1 .		kinase family, Melk, is expressed in the mouse eg	g and preimplantation embryo" Mol	Parrod Day 47: 149 156
	ł	1		(1997).	g and premiplantation emoryo. Mor	. Keprou. Dev. 47, 146–130
	-	╅	48		C I "Cl	C.1 XX X CX
		1	40	Huang, A. L., Ostrowski, M. C., Berard, D. and H	lager, G. L. "Glucocorticoid regulation	on of the Ha-MuSV p21 gene
		1	10	conferred by sequences from mouse mammary tur	mor virus." Cell 27: 245-255 (1981).	
		1	49	Humphreys, R. C., Lydon, J. P., O'Malley, B. W.		
	L_			progesterone in mammary gland development." J.	Mamm. Gland Biol. Neoplasia 2: 34	l3-354 (1997).
		1	50	Itoh, N., Mima, T., and Mikawa, T. "Loss of fibro	blast growth factor receptors is neces	ssary for terminal
	ı]		differentiation of embryonic limb muscle." Develo	opment 122: 291–300 (1996).	
			51	Jenkins, N. A., Copeland, N. G., Taylor, B. A., an	d Lee B K "Organization distribut	ion, and stability of
	ľ	ł l		endogenous ecotropic murine leukemia virus DNA	sequences in chromosomes of Mus	musculus " I Virol 42. 26
				(1982).	s sequences in emoniosomes of ivius	inusculus. <i>J. VIPOI</i> . 45: 20
			53		. T.	
			52	Jin, L., Fuchs, A., Schnitt, S. J., Yao, Y., Joseph, A.	A., Lamszus, K., Park, M., Goldberg,	, I. D., and Rosen, E. M.
		1		"Expression of scatter factor and c-met receptor in	benign and malignant breast tissue.	" Cancer 79: 749–760 (1997).
			53	Kelsey, J. L., Gammon, M. D. and John, E. M. "R	eproductive factors and breast cancer	r." Epidemiol. Rev. 15: 36-47
İ	L			(1993).		-
I			54	Klijn, J., Berns, E., and Foekens, J. "Prognostic fa	ctors and response to therapy in hrea	st cancer." In "Breast
	1			Cancer" (I. Fentiman and J. Taylor-Papadimitriou,	Eds.) 18: 165-198. Cold Spring Ha	rhor Laboratory Press Cold
				Spring Harbor, NY. (1993).	, ===:, -=: 120 120. Com opi ing 11u.	20. Zacoratory I ress, Colu
	 	+		Kluppel, M., Donoviel, D. B., Brunkow, M. E., M	otro D and Dometrin A "Fig. 1	
ı				notterns of the Tee transing library and a	out, D., and Dernstein, A. Embryot	nc and adult expression
	patterns of the Tec tyrosine kinase gene suggest a role in megakaryocytopoiesis, blood ver					vessel development, and
ļ	melanogenesis." Cell Growth Differ. 8: 1249–1256 (1997).					
		l	56	Korenberg, J. R., Chen, X. N., Schipper, R., Sun, 2	Z., Gonsky, R., Gerwehr, S., Carpent	er, N., Daumer, C., Dignan,
ľ	P., Disteche, C., et al. "Down syndrome phenotypes: The consequences of chromosomal imbalance." Proc. Nat					al imbalance." Proc. Natl.
Į	U ^c Acad. Sci. USA 91: 4997–5001 (1994).					
	57 Korobko, I. V., Kabishev, A. A., and Kiselev, S. L. "[Identification of the new protein kinase specifically "[Content of the new pro					
- [transcribed in mouse tumors with high metastatic potential]." Doklady Akad. Nauk 354: 554–556 (1997).					
ı	50 Vonde M "An analysis of 60 and discount of the control of the c					
	į	35		8125–8132 (1987).	o nom 033 venebrate messenger RN	NAS. INUCIEIC ACIAS KES. 15:
ŀ						
	R	P	59	Kozak, M. "An analysis of vertebrate mRNA sequ	ences: Intimations of translational co	ontrol." J. Cell Biol. 115:
L	<u> </u>			887–903 (1991).		
L	Ex	amine	r Sign	ature: Brinden Kuffty	Date Considered	1: 1114/04

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

PTO-1449.doc

Sheet 4 of 8 Form PTO-1449 JAN 0 3 2003 OTP Ells. Department of primere part of the Company of t	PECEIVED						
DOCKET NO. 22253-70421 APPLIN NO. 10033,256 PELS 3 1 2002 DOTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) Including Author, Title, Date, Pertinent Pages, etc.) OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) Including Author, Title, Date,				RECEIVED			
APPLICANT: Lewis A. Ecceptor 1, 2002 APPLICANT: Lewis A. Ecceptor 1,	Form P1	U-14	⁴⁹ ΙΔΝ Ο 3 2003	DOCKET NO 22253.	70421	A:DDI NI NIO 10/022 256	
Det Filed December 31, 2007 Bull C. E., Lansford, R., Gale, N. W., Collazo, A., Marcelle, C., Yancopoulos, G. D., Fraser, S. E., and Bronner-Fraser, M. "Interactions of Eph-related receptors and ligands confer rostrocaudal pattern to trunk neural crees migration." Curr. Biol. 7: 571–580 (1997). Kurioka, K., Nakagawa, K., Denda, K., Miyazawa, K., and Kitamura, N. "Molecular cloning and characterization of a novel protein semethetheronine finesse highly expressed in mouse embryo." Biochim. Biophys. Acta 1443: 275–284 (1998). G. Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567–2578 (1994). G. Lambe, M., Hisch, CC., Trichlopulos, P., Elsborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). G. Lambe, M., Hisch, CC., Trichlopulos, P., Elsborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). G. Lambe, M., Hisch, CC., Trichlopulos, P., Elsborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). G. Leder, A., Pattengale, P. K., Kun, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1996). G. Leder, A., Pattengale, P. K., Kun, Siarchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis baliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). G. Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R "Pik is an M-phase-specific protein kinase and interacts with a kinesia-Hike protein, CHOI/MALTH." Mol. Cell. Biol. 15: 7143–715 (1995). G. Leitola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo,	0	PX	U.S. Department of Commerce	<u> </u>	JA	100. 10/032,256	
OTHER DOCUMENT(S) (Including duthor, Title, Date, Pertineal Pages, etc.) OTHER DOCUMENT(S) (Including duthor, Title, Date, Pertineal Pages, etc.) OTHER DOCUMENT(S) (Including duthor, Title, Date, Pertineal Pages, etc.) OTHER DOCUMENT(S) (Including duthor, Title, Date, Pertineal Pages, etc.) OTHER DOCUMENT(S) (Including duthor, Title, Date, Pertineal Pages, etc.) Fraser, M. "Interactions of Eph-related receptors and ligands confer rostrocaudal pattern to trunk neural crest migration." Curr. Biol. 7: 571–580 (1997). OTHER DOCUMENT(S) (Including duthor, Title, Date, Pertineal Pages, etc.) Aurioka, K., Nakagawa, K., Denda, K., Miyazawa, K., and Kitamura, N. "Molecular cloning and characterization of a novel protein sermethrecomine kinase highly expressed in mouse embryo." Biochim. Biophys. Acta 1443: 275–284 (1998). Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567–2578 (1994). Laic, M., Hisich, CC., Tricholpoulos, D., Ekborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Eppl. J. Med. 331: 5–9 (1994). Leder, A., Pattengale, P. K., Kuo, A., Stewari, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1986). E. Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). 61 Lee, K. S., Yuan, YL. O., Kurryama, R., and Pitison, R Pitis is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHOI/MKLP-I." Mol. Cell. Biol. 15: 7143–7151 (1995). 62 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizoaaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 63 Levin, D. E., and Bishop, J. M. "A put			ICLH CENTED ASSASSAS	APPLICANT: Lewis A	A. Angliosti,	et al.	
OTHER DOCUMENT(S) (Including duthor, Title, Date, Pertinent Pages, etc.) 60 Stull, C. E., Lansford, R., Gale, N. W., Collazo, A., Marcelle, C., Yancopoulos, G. D., Fraser, S. E., and Bronner- 87 Fraser, M., "Interactions of Eph-related receptors and ligands confer rostrocaudal pattern to trunk neural crest migration." Curr. Biol. 7: 571–580 (1997). 61 Kurioka, K., Nakagawa, K., Denda, K., Miyazawa, K., and Kitamura, N. "Molecular cloning and characterization of a novel protein serine/threonine kinase highly expressed in mouse embryo." Biochim. Biophys. Acta 1443: 275–284 (1998). 62 Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Congogene 9: 2567–2578 (1994). 63 Lambe, M., Hsieh, CC., Tricholpoulos, D., Ekbom, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). 64 Leder, A., Pattengale, F. K., Kwo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Cene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kurlyama, R., and Erikson, R. L. "Pilk is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHO1/MKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1995). 67 Lehiola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Allitalo, K. "Analysis of tyrosine kinase mRNAs including four FGf receptor mRNAs expressed in MrC-7- breast cancer cells." Int. J. Cancer 50: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276	R DEC 3	9 200	Date Filed: December 31, 2002		3.705	WER 1600/2000	
60 Serust, C. E., Lansford, R., Gale, N. W., Collazo, A., Marcelle, C., Yancopoulos, G. D., Friser, S. E., and Bronner- 87 Fraser, M. "Interactions of Eph-related receptors and ligands confer rostrocaudal pattern to trunk neural crest migration." Curr. Biol. 7: 571–580 (1997). 61 Kurioka, K., Nakagawa, K., Denda, K., Miyazawa, K., and Kitamura, N. "Molecular cloning and characterization of a novel protein serine/threonine kinase highly expressed in mouse embryo." Biochim. Biophys. Acta 1443: 275–284 (1998). 62 Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567–2578 (1994). 63 Lambe, M., Hsich, CC., Trichopoulos, D., Ekbom, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5-9 (1994). 64 Leder, A., Patrengale, P. K. Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the e-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thailana encoding a protein related to SNFI protein kinase." Cene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Pik is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHOl/MKP.1-" Mod. Cell. Biol. 15: 7143–7151 (1995). 67 Lebtola, L., Partanen, J., Sixtonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of prosine kinase mRANas including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. U.S. 487: 8272–8276 (1990). 19 Levin, D. E., and Bishop, J. M., "A putative protein kinase gene (kin11) is important fo	1	' 400	K			GROUPUL/ADUI)	
Staphash* Fraser, M. "Interactions of Eph-related receptors and ligands confer rostrocaudal pattern to trunk neural crest migration." Curr. Biol. 7: 571-580 (1997). 61 Kurioka, K., Nakagawa, K., Denda, K., Miyazawa, K., and Kitamura, N. "Molecular cloning and characterization of a novel protein serine/threonine kinase highly expressed in mouse embryo." Biochim. Biophys. Acta 1443: 275-284 (1998). 62 Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567-2578 (1994). 63 Lambe, M., Hisich, CC., Tricholpoulos, D., Ekborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5-9 (1994). 64 Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mices. Multiple nooplasms and normal development." Cell 45: 485-495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249-254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Frisson, R. L. "Piki san M-phase-specific protein kinase and interacts with a kinesin-like protein, CHOI/MKLP-1:" Mol. Cell. Biol. 15: 7143-7151 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, T., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598-603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizoasccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8227-8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase Boncoge	1 \ \ \ \	60	Whill C E Langford D Colo N W College	A Massalla C W	1 0 0	n 0 n 1 n	
 Kurioka, K., Nakagawa, K., Denda, K., Miyazawa, K., and Kitamura, N. "Molecular cloning and characterization of a novel protein serine/threonine kinase highly expressed in mouse embryo." Biochim. Biophys. Acta 1443: 275–284 (1998). Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567–2578 (1994). Lanbe, M., Hsieh, CC., Tricholpoulos, D., Ekbom, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1986). Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). Lee, K. S., Yuan, YL. O., Kuriyama, R., and Biriskon, R. L. "Pik is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHOI/MKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1995). Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of prosine kinase mRNAs including four Fof receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 90: 598–603 (1992). Elevin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 38: 5667–5672 (1998). Li, J., Fun, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J.,	VI ADE	MAEN	Fraser, M. "Interactions of Eph-related receptors	and ligands confer rostro	ocaudal patte	rn to trunk neural crest	
a novel protein serine/threonine kinases highly expressed in mouse embryo." Biochim. Biophys. Acta 1443: 275–284 (1998). 62 Lai, C., Gore, M., and Lemke, G. "Struchure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567–2578 (1994). 63 Lambe, M., Histeh, CC., Tricholpoulos, D., Ekborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). 64 Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Pik is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHOI/MKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1992). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, I., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 90: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Itmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative	RF						
(1998). 62 Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567–2578 (1994). 63 Lambe, M., Hsieh, CC., Tricholpoulos, D., Ekborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). 64 Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice "Multiple neoplasms and normal development." Cell 45: 485–495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Plk is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHO!/MKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1995). 67 Lehtola, L., Patranen, J., Sistonen, L., Korhonen, T., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 95: 988–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Millaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMACI tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Itmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer gecomments)." Science 275: 1	I	61	Kurioka, K., Nakagawa, K., Denda, K., Miyazaw	a, K., and Kitamura, N.	"Molecular o	loning and characterization of	
 62 Lai, C., Gore, M., and Lemke, G. "Structure, expression, and activity of Tyro 3, a neural adhesion-related receptor tyrosine kinase." Oncogene 9: 2567–2578 (1994). 63 Lambe, M., Hsieh, CC., Tricholpoulos, D., Ekbom, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). 64 Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Plk is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHOMKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase emRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schrizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8275 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Itmann, M., Tycko, B., Bishbshosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein prosine phosphatase gene mutated in human	1 (a novel protein serme/threonine kinase highly exp	pressed in mouse embryo	o." Biochim.	Biophys. Acta 1443: 275–284	
yrosine kinase." Oncogene 9: 2567–2578 (1994). 63 Lambe, M., Heich, CC., Tricholpoulos, D., Ekborn, A., Pavia, M., and Adami, HO. "Transient increase in the risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5–9 (1994). 64 Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485–495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Pik is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHOI/MKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. L., Puc, J., Miliaresis, C., Rodgers, L., McCombic, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-me		62		ression, and activity of T	Cvro 3, a neu	al adhesion-related recentor	
risk of breast cancer after giving birth." N. Engl. J. Med. 331: 5-9 (1994). 64 Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485-495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure an dexpression of a gene from Arabidopsis thaliana encoding a protein related to SNP1 protein kinase." Gene 120: 2454 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Pik is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHO1/MKLP-1." Mol. Cell. Biol. 15: 7143-7151 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Kothonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598-603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272-8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Milfaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667-5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibsboosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943-1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of pr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872-2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I			tyrosine kinase." <i>Oncogene</i> 9: 2567–2578 (1994)	•		· -	
 64 Leder, A., Pattengale, P. K., Kuo, A., Stewart, T. A., and Leder, P. Consequences of widespread deregulation of the c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485-495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249-254 (1992). 66 Lee, K. S., Yuan, Y. L. O., Kuriyama, R., and Erikson, R. L. "Pik is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHO1/MKLP-1." Mol. Cell. Biol. 15: 7143-7151 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tryrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598-603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272-8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667-5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943-1947 (1997). 71 Liang, T. J., Reid, A. E., Kavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872-2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I		63	Lambe, M., Hsieh, CC., Tricholpoulos, D., Ekbe	om, A., Pavia, M., and A	dami, HO.	"Transient increase in the	
c-myc gene in transgenic mice: Multiple neoplasms and normal development." Cell 45: 485-495 (1986). 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249-254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Plk is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHO/IMKLP-11." Mol. Cell. Biol. 15: 7143-711 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Canner 50: 598-603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kim11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272-8276 (1990). 69 Ll, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667-5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombic, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943-1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872-2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng., C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome		61	risk of breast cancer after giving birth." N. Engl.	J. Med. 331: 5–9 (1994).			
 65 Le Guen, L., Thomas, M., Bianchi, M., Halford, N. G., and Kreis, M. "Structure and expression of a gene from Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Plk is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHO1/MKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMACI tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombic, R., Bigner, S. H., Giovanella, B. C., Itmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng. C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997).		04	c-myc gene in transgenic mice: Multiple neoplast	A., and Leder, P. Conse	quences of w	idespread deregulation of the	
Arabidopsis thaliana encoding a protein related to SNF1 protein kinase." Gene 120: 249–254 (1992). 66 Lee, K. S., Yuan, YL. O., Kuriyama, R., and Erikson, R. L. "Plk is an M-phase-specific protein kinase and interacts with a kinesin-like protein, CHO1/MKLP-1." Mol. Cell. Biol. 15: 7143–7151 (1995). 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombic, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Guiterrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfa		65	Le Guen, L., Thomas, M., Bianchi, M., Halford, 1	N. G., and Kreis, M. "Str	ructure and e	xpression of a gene from	
interacts with a kinesin-like protein, CHOI/MKLP-I." Mol. Cell. Biol. 15: 7143–7151 (1995). Chola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598–603 (1992). Evin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). Evin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). Evin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Milliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Itmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). Liang, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64-67 (1997). Jigos, J. M., Gerwin, N., Fernandez, P.,			Arabidopsis thaliana encoding a protein related to	SNF1 protein kinase."	Gene 120: 24	9–254 (1992).	
 67 Lehtola, L., Partanen, J., Sistonen, L., Korhonen, J., Warri, A., Harkonen, P., Clarke, R., and Alitalo, K. "Analysis of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598–603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takhashi, M., Militaresis, C., Myers, M. P., Tonks, N., and Parsons, R. "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombic, R., Bigner, S. H., Giovanella, B. C., Itmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Guiterrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Set/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N		66	Lee, K. S., Yuan, YL. O., Kuriyama, R., and Eri	kson, R. L. "Plk is an M	l-phase-speci	fic protein kinase and	
of tyrosine kinase mRNAs including four FGF receptor mRNAs expressed in MCF-7 breast cancer cells." Int. J. Cancer 50: 598-603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272-8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667-5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Itmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943-1947 (1997). 71 Liang, T. J., Reid, A. E., Kavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872-2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64-67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380-384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravuihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209-221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravniha		67	Lehtola L. Partanen I. Sistenen I. Korbanen	P-1." Mol. Cell. Biol. 15	: 7143–7151	(1995).	
 Cancer 50: 598-603 (1992). 68 Levin, D. E., and Bishop, J. M. "A putative protein kinase gene (kin11) is important for growth polarity in Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K.,		٠, ا	of tyrosine kinase mRNAs including four FGF re-	J., Waiti, A., Harkonen, centor mRNAs expressed	r., Clarke, R	., and Alitalo, K. "Analysis	
Schizosaccharomyces pombe." Proc. Natl. Acad. Sci. USA 87: 8272–8276 (1990). 69 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M		İ	Cancer 50: 598-603 (1992).				
 Li, J., Simpson, L., Takahashi, M., Miliaresis, C., Myers, M. P., Tonks, N., and Parsons, R "The PTEN/MMAC1 tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germilne mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., a		68	Levin, D. E., and Bishop, J. M. "A putative protein	n kinase gene (kin11) is	important fo	r growth polarity in	
tumor suppressor induces cell death that is rescued by the AKT/protein kinase B oncogene." Cancer Res. 58: 5667–5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Rawnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927–2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico		60				D ((77)	
5672 (1998). 70 Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S. I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yusas, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927–2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of		09	tumor suppressor induces cell death that is rescue	Myers, M. P., 10nks, N d by the AKT/protein ki	., and Parson	s, K "The PTEN/MMACT	
Bigner, S. H., Giovanella, B. C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M. H., and Parsons, R. "PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A. (1982). 77 Manger, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A. (1982). 78 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-PI/MAC-11 cells." Blood 89: 135–145 (1997).			5672 (1998).		_		
putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer [see comments]." Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927–2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-PI/MAC-11 cells." Blood 89: 135–145 (1997).		70	Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose,	S., Wang, S. I., Puc, J., N	Miliaresis, C.,	Rodgers, L., McCombie, R.,	
Science 275: 1943–1947 (1997). 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872–2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927–2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135–145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205–3211 (1994)			Bigner, S. H., Giovanella, B. C., Ittmann, M., Tyc	ko, B., Hibshoosh, H., V	Wigler, M. H.	, and Parsons, R. "PTEN, a	
 71 Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D., and Wang, T. C. "Transgenic expression of tpr-met oncogene leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872-2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64-67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380-384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209-221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-PI/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique doma			Science 275: 1943–1947 (1997).	u in numan orain, oreasi	t, and prostat	e cancer [see comments]."	
leads to development of mammary hyperplasia and tumors." J. Clin. Invest. 97: 2872-2877 (1996). 72 Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang, S. I., Zheng, Z., Bose, S., Call, K. M., Tsou, H. C., Peacocke, M., Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64-67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380-384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209-221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Simondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).		71	Liang, T. J., Reid, A. E., Xavier, R., Cardiff, R. D	., and Wang, T. C. "Trai	nsgenic expre	ession of tpr-met oncogene	
Eng, C., and Parsons, R. "Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome." Nat. Genet. 16: 64–67 (1997). 73 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927–2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-PI/MAC-11 cells." Blood 89: 135–145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205–3211 (1994).			leads to development of mammary hyperplasia an	d tumors." J. Clin. Inves	it. 97: 2872–2	2877 (1996).	
cancer syndrome." Nat. Genet. 16: 64-67 (1997). 13 Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380-384 (1998). 14 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209-221 (1970). 15 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). 16 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 17 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 18 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).	1 1 1	72	Liaw, D., Marsh, D. J., Li, J., Dahia, P. L., Wang,	S. I., Zheng, Z., Bose, S	S., Call, K. M	., Tsou, H. C., Peacocke, M.,	
Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez-Ramos, J. C., and Bernad, A. "Cloning, expression analysis, and functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927–2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-PI/MAC-11 cells." Blood 89: 135–145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205–3211 (1994).		ł	cancer syndrome." Nat. Genet. 16: 64-67 (1997)	ne PIEN gene in Cowo	en disease, ai	innerited breast and thyroid	
functional characterization of PKL12, a member of a new subfamily of Ser/Thr kinases." Biochem. Biophys. Res. Commun. 249: 380–384 (1998). 74 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209–221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927–2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135–145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205–3211 (1994).		73	Ligos, J. M., Gerwin, N., Fernandez, P., Gutierrez	-Ramos, J. C., and Bern	ad, A. "Cloni	ng, expression analysis, and	
 MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209-221 (1970). MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994). 			functional characterization of PKL12, a member of	of a new subfamily of Se	r/Thr kinases	." Biochem. Biophys. Res.	
Yuasa, S. "Age at first birth and breast cancer risk." Bull. WHO 43: 209-221 (1970). 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).		Commun. 249: 380–384 (1998).					
 75 MacMahon, B., Trichopoulos, D., Brown, J., Andersen, A. P., Aoki, K., Cole, P., DeWaard, F., Kaureniemi, T., Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994). 		MacMahon, B., Cole, P., Lin, T. M., Lowe, C. R., Mirra, A. P., Ravnihar, B., Salber, E. J., Valaoras, V. G., and					
Morgan, R. W., Purde, M., Ravnihar, B., Stormby, N., Westlund, K., and Woo, NC. "Age at menarche, probability of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).		75				aard, F., Kaureniemi, T	
of ovulation and breast cancer risk." Int. J. Cancer 29: 13-16 (1982). 76 Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A., Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).			Morgan, R. W., Purde, M., Ravnihar, B., Stormby	, N., Westlund, K., and	Woo, NC. "	Age at menarche, probability	
Sismondi, P., and Comoglio, P. M. "Overexpression of the RON gene in human breast carcinoma." Oncogene 16: 2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).		of ovulation and breast cancer risk." Int. J. Cancer 29: 13–16 (1982).					
2927-2933 (1998). 77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).	1 /	Maggiora, P., Marchio, S., Stella, M. C., Giai, M., Belfiore, A., DeBortoli, M., Di Renzo, M. F., Costantino, A.,					
77 Manfredini, R., Balestri, R., Tagliafico, E., Trevisan, F., Pizzanelli, M., Grande, A., Barbieri, D., Zucchini, P., Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).		2927–2933 (1998). Overexpression of the RON gene in human breast carcinoma." Oncogene 16:					
Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced macrophage differentiation in HL60 and in FDC-P1/MAC-11 cells." Blood 89: 135-145 (1997). 78 Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).		77	Manfredini, R., Balestri, R., Tagliafico, E., Trevis	an, F., Pizzanelli, M., Gr	rande, A., Ba	rbieri, D., Zucchini, P.,	
Mano, H., Sato, K., Yazaki, Y., and Hirai, H. "Tec protein-tyrosine kinase directly associates with Lyn protein-tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).		Citro, G., Franceschi, C., and Ferrari, S. "Antisense inhibition of c-fes proto-oncogene blocks PMA-induced					
tyrosine kinase through its N-terminal unique domain." Oncogene 9: 3205-3211 (1994).							
	BF		tyrosine kinase through its N-terminal unique dom	protein-tyrosine kinase ain." <i>Oncogene</i> 9: 3205	-3211 (1994)	ciates with Lyn protein-	
		Sign					

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s). PTO-1449.doc

i	ÇI	100+ 4	of 8	- RECEIVED		PEOP.
				10		MECEIVED
		TP	10-144	JAN 0 3 2003 U.S. Department of Commerce FCH CENTER 1600/2900	DOCKET NO. 22253-70421	A DDI MANO MOMOR SE
Λ	ľ) 1 (1	U.S. Department of Commerce	DOCKET NO. 22233-70421	Trace APPLOAND (1 40 32 756
			2	L JECH CENTER 1600/2900	APPLICANT: Lewis A. Chodosh,	effett CENTER
	DEC	31	2002	Date Filed: December 31, 2002		VENTER 1600/2000
2				OTHER DOCUMENTS	FILING DATE: 12/21/2001	GROUP 1645
থ		_	70	OTHER DOCUMENT(S) (Including	Author, Title, Date, Pertinent Pages	, etc.)
1	√3 /	Her	1 P. P. P. P. P. P. P. P. P. P. P. P. P.	Mano, H., Yamashita, Y., Miyazato, A., Miura, molecule of Lyn protein-tyrosine kinase." FASE	Y., and Uzawa, K. "Tec protein-tyro	sine kinase is an effector
l	,	1	80	Marquis, S. T., Rajan, J. V., Wynshaw-Boris, A.	Xu. J. Yin GY Abel K I Wel	per D. I. and Chadash I. A.
				"The developmental pattern of Brcal expression	implies a role in differentiation of the	he breast and other tissues "
	_		1	Nat. Genet. 11: 17–20 (1995).	i.	
			81	Mischak, H., Kolch, W., Goodnight, J., Davidson	n, W. F., Rapp, U., Rose-John, S., an	nd Mushinski, J. F.
1				"Expression of protein kinase C genes in hemopo J. Immunol. 147: 3981-3987 (1991).	oietic cells is cell-type- and B cell-di	fferentiation stage specific."
ł	_	<u> </u>	82	Moore, F., Weekes, J., and Hardie, D. G. "Evider	nce that AMD triggers when I i	11 1:
				activation of rat liver AMP-activated protein king	ase. A sensitive mechanism to protect	on as well as direct allosteric
				depletion." Eur. J. Biochem. 199: 691-697 (199)	1).	-
	-		83	Morrison, B. W., and Leder, P. "neu and ras initial	ate murine mammary tumors that sh	are genetic markers generally
-	4		04	absent in c-myc and int-2-initiated tumors." Once	ogene 9: 3417–3426 (1994).	
	ł		84	Muller, W. J., Lee, F. S., Dickson, C., Peters, G.,	Pattengale, P., and Leder, P. "The in	nt-2 gene product acts as an
ŀ	+		85	epithelial growth factor in transgenic mice." EMI Muller, W. J., Sinn, E., Pattengale, P. K., Wallaco	BOJ. 9: 907-913 (1990).	
	-			adenocarcinoma in transgenic mice bearing the a	ctivated c-neu oncogene." Cell 54: 1	on or mammary
Γ			86	Munn, R., Webster, M., Muller, W., and Cardiff,	R. "Histopathology of transgenic me	ouse mammary himors (a
L	\downarrow		0.5	snort atias). Semin. Cancer Biol. 6: 153–158 (19	95).	•
			87	Muranaka, T., Banno, H., and Machida, Y. "Char	acterization of tobacco protein kinas	se NPK5, a homolog of
				Saccharomyces cerevisiae SNF1 that constitutive a secreted invertase of S. cerevisiae." Mol. Cell.	ly activates expression of the glucos	e-repressible SUC2 gene for
	1		88	Myohanen, S., Kauppinen, L., Wahlfors, J., Alhoi	nen. L., and Janne, I. "Human sperm	vidine symthese games
	\perp			Structure and chromosomal localization." DNA C	'ell Biol. 10: 467–474 (1991).	-
ł			89	Myohanen, S., Wahlfors, J., Alhonen, L., and Jan	ne, J. "Nucleotide sequence of mou-	se spermidine synthase
H	╫		90	CDNA." DNA Seq. 4: 343-346 (1994).		
	l			Newcomb, P., Storer, B., Longnecker, M., Mitten MacMahon, B. "Lactation and a reduced risk of p	dorf, R., Greenberg, E., Clapp, R., B	Burke, K., Willett, W., and
L				(1994).	remeno-pausar breast cancer. N. En	igi. J. Med. 330; 81–87
Γ	Τ		91	Niemann, C., Brinkmann, V., Spitzer, E., Hartman	nn, G., Sachs, M., Naundorf, H., and	Birchmeier, W.
			l i	"Reconstitution of mammary gland development i	in vitro: requirement of c-met and c-	erbB2 signaling for
-	+			branching and alveolar morphogenesis." J. Cell B.	iol. 143: 533–545 (1998).	· –
			12	Parsa, I. "Loss of a Mr 78,000 marker in chemical human pancreas." Cancer Res. 48: 2265-2272 (19	ny induced transplantable carcinoma	s and primary carcinoma of
	1		93	Partanen, J., Armstrong, E., Makela, T. P., Korhon	nen, J., Sandberg, M. Renkonen P.	Knuutila S Huahnar V
	1			and Alitalo, K. "A novel endothelial cell surface re	eceptor tyrosine kinase with extracel	llular epidermal growth
\vdash				factor homology domains." Mol. Cell. Biol. 12: 16	598–1707 (1992).	_
		\	94	Parthasarathy, L., Parthasarathy, R., and Vadnal, F	R. "Molecular characterization of coo	ding and untranslated
\vdash		\vdash	95	regions of rat cortex lithium-sensitive myoinositol Peng, C. Y., Graves, P. R., Ogg, S., Thoma, R. S.,	monophosphatase cDNA." Gene 19	1: 81–87 (1997).
				Worms, H. "C-TAK1 protein kinase phosphorylate	es human Cdc25C on serine 216 and	nromotes 14-3-3 protein
L				binding." Cell Growth Differ. 9: 197–208 (1998).		_
			96	Peng, C. Y., Graves, P. R., Thoma, R. S., Wu, Z.,	Shaw, A. S., and Piwnica-Worms, H	. "Mitotic and G2
			1 '	checkpoint control: Regulation of 14-3-3 protein b	inding by phosphorylation of Cdc25	C on serine-216." Science
	277: 1501-1505 (1997). 97 Pike, M. C., Spicer, D. V., Dahmoush, L. and Press, M. F. "Estrogens, progestogens, normal breast cell					
		\perp		proliferation, and breast cancer risk." Epidemiol. R	o, ivi. r. — Estrogens, progestogens, i lev: 15: 17-35 (1993)	norman breast cell
	_		98 3	Ponticos, M., Lu, Q. L., Morgan, J. E., Hardie, D.	G., Partridge, T. A., and Carling D.	(1998). Dual regulation of
	Kr		1	me AMP-activated protein kinase provides a novel	mechanism for the control of creati	ne kinase in skeletal muscle.
-	V I	nine		EMBO J. 17: 1688–1699 (1998).		
نو،	ag i	******		LUIE. No. 1 . 1/41/11/1/1	D-4. 71	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. PTO-1449.doc

Sheet 6 of 8 Form PTO-1449 JAN 0 8 2003 DOCKET NO. 22253-70421 U.S. Department of Commerce ECH CENTER 1600/2900 APPLICANT: Lewis A. Chodos Date Filed: December 31, 2002 FILING DATE: 12/21/2001 OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) Quintrell, N., Lebo, R., Varmus, H., Bishop, J. M., Pettenati, M. J., LeBeau, M. M., Diaz, M. O., and Rowley, J. D. "Identification of a human gene (HCK) that encodes a protein-tyrosine kinase and is expressed in hemopoietic PADEM cells." Mol. Cell. Biol. 7: 2267-2275 (1987). Rahmani, Z., Blouin, J. L., Creau-Goldberg, N., Watkins, P. C., Mattei, J. F., Poissonnier, M., Prieur, M., Chettouh, Z., Nicole, A., Aurias, A., et al., "Critical role of the D21S55 region on chromosome 21 in the pathogenesis of Down syndrome." Proc. Natl. Acad. Sci. USA 86: 5958-5962 (1989). Rajan, J. V., Marquis, S. T., Gardner, H. P., and Chodosh, L. A. "Developmental expression of Brca2 colocalizes with Brca1 and is associated with differentiation in multiple tissues." Dev. Biol. 184: 385-401 (1997). Rawlings, D. J., and Witte, O. N. "Bruton's tyrosine kinase is a key regulator in B-cell development." Immunol. 102 Rev. 138: 105-119 (1994). Robinson, G. W., McKnight, R. A., Smith, G. H., and Hennighausen, L. "Mammary epithelial cells undergo secretory differentiation in cycling virgins but require pregnancy for the establishment of terminal differentiation." Development 121: 2079-2090 (1995). Ruiz, J., Conlon, F., and Robertson, E. "Identification of novel protein kinases expressed in the myocardium of the developing mouse heart." Mech. Dev. 48: 153-164 (1994). Russo, I. H., and Russo, J. "Developmental stage of the rat mammary gland as determinant of its susceptibility to 105 7,12-dimethylben(a)anthracene." J. Natl. Cancer Inst. 61: 1439-1449 (1978). Russo, J., and Russo, I. H. "Biological and molecular bases of mammary carcinogenesis." Lab. Invest. 57: 112-137 (1987). Sano, H., and Youssefian, S. "Light and nutritional regulation of transcripts encoding a wheat protein kinase 107 homolog is mediated by cytokinins." Proc. Natl. Acad. Sci. USA 91: 2582-2586. Santoro, M. M., Collesi, C., Grisendi, S., Gaudino, G., and Comoglio, P. M. "Constitutive activation of the RON 108 gene promotes invasive growth but not transformation." Mol. Cell. Biol. 16: 7072-7083 (1996). Sato, K., Mano, H., Ariyama, T., Inazawa, J., Yazaki, Y., and Hirai, H. "Molecular cloning and analysis of the 109 human Tec protein-tyrosine kinase." Leukemia 8: 1663-1672 (1994). Sato, T. N., Qin, Y., Kozak, C. A., and Audus, K. L. "Tie-1 and tie-2 define another class of putative receptor 110 tyrosine kinase genes expressed in early embryonic vascular system." Proc. Natl. Acad. Sci. USA 90: 9355-9358 (1993). [Published erratum appears in Proc. Natl. Acad. Sci. USA, 1993, 15, 12056] Sato, T. N., Tozawa, Y., Deutsch, U., Wolburg-Buchholz, K., Fujiwara, Y., Gendron-Maguire, M., Gridley, T., 111 Wolburg, H., Risau, W., and Qin, Y. "Distinct roles of the receptor tyrosine kinases Tie-1 and Tie-2 in blood vessel formation." Nature 376: 70-74 (1995). Schnurch, H., and Risau, W. "Expression of tie-2, a member of a novel family of receptor tyrosine kinases, in the 112 endothelial cell lineage." Development 119: 957-968 (1993). Shulman, J. M., Benton, R. and St Johnston, D. "The Drosophila homolog of C. elegans PAR-1 organizes the oocyte cytoskeleton and directs oskar mRNA localization to the posterior pole." Cell 101: 377-388 (2000). Siliciano, J. D., Morrow, T. A., and Desiderio, S. V. "itk, a T-cell-specific tyrosine kinase gene inducible by interleukin 2." Proc. Natl. Acad. Sci. USA 89: 11194-11198 (1992). Sinn, E., Muller, W., Pattengale, P., Tepler, I., Wallace, R., and Leder, P. "Coexpression of MMTV/v-Ha-ras and MMTV/c-myc genes in transgenic mice: Synergistic action of oncogenes in vivo." Cell 49: 465-475 (1987). Slamon, D. J., Clark, G. M., and Wong, S. G. "Human breast cancer: Correlation of relapse and survival with 116 amplification of the HER-2/neu oncogene." Science 235: 177-182 (1987). Slamon, D. J., Godolphin, W., Jones, L. A., Holt, J. A., Wong, S. G., Keith, D. E., Levin, W. J., Stuart, S. G., Udove, J., Ullrich, A., et al. "Studies of the HER-2/neu proto-oncogene in human breast and ovarian cancer." Science 244: 707-712 (1989). Stairs, D. B., Gardner, H. P., Ha, S. I., Copeland, N. G., Gilbert, D. J., Jenkins, N. A., and Chodosh, L. A. "Cloning and characterization of Krct, a member of a novel subfamily of serine/threonine kinases." Hum. Mol. Genet. 7: 2157-2166 (1998). Stambolic, V., Suzuki, A., de la Pompa, J. L., Brothers, G. M., Mirtsos, C., Sasaki, T., Ruland, J., Penninger, J. M., 81 Siderovski, D. P., and Mak, T. W. "Negative regulation of PKB/Akt-dependent cell survival by the tumor suppressor PTEN." Cell 95: 29-39 (1998). Examiner Signature: Bical 14MM Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. PTO-1449.doc



Sheet 7 of 8 TAN 0 3 2003 Form PTO-1449 DOCKET NO. 22253-70421 APPLICANT: Lewis A. Chodosh, et Qate Filed: December 31, 2002 FILING DATE: 12/21/2001 DEC 3 1 2002 OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, etc.) Steck, P. A., Pershouse, M. A., Jasser, S. A., Yung, W. K., Lin, H., Ligon, A. H., Langford, L. A., Baumgard, M. L., Hattier, T., Davis, T., Frye, C., Hu, R., Swedlund, B., Teng, D. H., and Tavtigian, S. V. "Identification of a candidate turnour suppressor gene, MMAC1, at chromosome 10q23.3 that is mutated in multiple advanced cancers." Nat. Genet. 15: 356-362 (1997). Sternlicht, M. D., Lochter, A., Sympson, C. J., Huey, B., Rougier, J., Gray, J. W., Pinkel, D., Bissell, M. J. and Werb, Z." The stromal proteinase MP3/ stromelysin-1 promotes mammary carcinogenesis." Cell 98: 137-146 Stitt, T. N., Conn, G., Gore, M., Lai, C., Bruno, J., Radziejewski, C., Mattsson, K., Fisher, J., Gies, D. R., Jones, P. F., et al. "The anticoagulation factor protein S and its relative, Gas6, are ligands for the Tyro 3/Axl family of receptor tyrosine kinases." Cell 80: 661-670 (1995). Tamagnone, L., and Comoglio, P. M. "Control of invasive growth by hepatocyte growth factor (HGF) and related 123 scatter factors." Cytokine Growth Factor Rev. 8: 129-142 (1997). ten Dijke, P., Franzen, P., Yamashita, H., Ichijo, H., Heldin, C., and Miyazono, K. "Serine-threonine kinase 124 receptors." Progr. Growth Factor Res. 5: 55-72 (1994). Teng, C. "Mouse lactoferrin gene: a marker for estrogen and epidermal growth factor." Environ. Health Perspect. 125 103: 17-20 (1995). Thompson-Jaeger, S., Francois, J., Gaughran, J. P., and Tatchell, K. "Deletion of SNF1 affects the nutrient response of yeast and resembles mutations which activate the adenylate cyclase path-way." Genetics 129: 697-706 Tokishita, S., Shiga, Y., Kimura, S., Ohta, T., Kobayashi, M., Hanazato, T., and Yamagata, H. "Cloning and 127 analysis of a cDNA encoding a two-domain hemoglobin chain from the water flea Daphnia magna." Gene 189: Topper, Y. J. and Freeman, C. S. "Multiple hormone interactions in the developmental biology of the mammary 128 gland." Physiol. Rev. 60: 1049-1106 (1980). Tsarfaty, I., Resau, J. H., Rulong, S., Keydar, I., Faletto, D. L., and Vande Woude, G. F. "The met proto-oncogene 129 receptor and lumen formation." Science 257: 1258-1261 (1992). Tsukada, S., Saffran, D. C., Rawlings, D. J., Parolini, O., Allen, R. C., Klisak, I., Sparkes, R. S., Kubagawa, H., 130 Mohandas, T., Quan, S., et al. "Deficient expression of a B cell cytoplasmic tyrosine kinase in human X-linked agammaglobulinemia." Cell 72: 279-290 (1993). Ugolini, F., Adelaide, J., Charafe-Jauffret, E., Nguyen, C., Jacquemier, J., Jordan, B., Birnbaum, D., and Pebusque, 131 M. J. "Differential expression assay of chromosome arm 8p genes identifies Frizzled-related (FRP1/FRZB) and fibroblast growth factor receptor 1 (FGFR1) as candidate breast cancer genes." Oncogene 18: 1903-1910 (1999). Umemori, H., Wanaka, A., Kato, H., Takeuchi, M., Tohyama, M., and Yamamoto, T. "Specific expressions of Fyn 132 and Lyn, lymphocyte antigen receptor-associated tyrosine kinases, in the central nervous system." Brain Res. Mol. Brain Res. 16: 303-310 (1992). Valenzuela, D. M., Rojas, E., Griffiths, J. A., Compton, D. L., Gisser, M., Ip, N. Y., Goldfarb, M., and Yancopoulos, G. D. "Identification of full-length and truncated forms of Ehk-3, a novel member of the Eph receptor tyrosine kinase family." Oncogene 10: 1573-1580 (1995a). Valenzuela, D. M., Stitt, T. N., DiStefano, P. S., Rojas, E., Mattsson, K., Compton, D. L., Nunez, L., Park, J. S., Stark, J. L., Gies, D. R., et al. "Receptor tyrosine kinase specific for the skeletal muscle lineage: Expression in embryonic muscle, at the neuromuscular junction, and after injury." Neuron 15: 573-584 (1995b). Wang, M. H., Dlugosz, A. A., Sun, Y., Suda, T., Skeel, A., and Leonard, E. J. "Macrophage-stimulating protein induces proliferation and migration of murine keratinocytes." Exp. Cell Res. 226: 39-46 (1996). Webster, N. J., Resnik, J. L., Reichart, D. B., Strauss, B., Haas, M., and Seely, B. L. "Repression of the insulin 136 receptor promoter by the tumor suppressor gene product p53: A possible mechanism for receptor overexpression in breast cancer." Cancer Res. 56: 2781-2788 (1996). Wilks, A. F. "Cloning members of protein-tyrosine kinase family using polymerase chain reaction." Methods 137 Enzymol. 200: 533-546 (1991). Wilks, A. F. "Two putative protein-tyrosine kinases identified by application of the polymerase chain reaction." Proc. Natl. Acad. Sci. USA 86: 1603-1607 (1989). **Examiner Signature:** Drailon 1911/10 Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. PTO-1449.doc

		IAN G 3 2003		TIVED
Sheet 8	of 8			N O R
Form P		TECH CENTER 1600/2900	TECH	2003
OTPE	~	U.S. Department of Commerce	DOCKET NO. 22253-7042 77 C	WED NO. 10/032,256
DEC 3 1 2	1002	Date Filed: December 31, 2002	APPLICANT: Lewis A. Chodosh,	et al.
<u> </u>		OTHER DOCUMENTOS (7)	FILING DATE: 12/21/2001	GROUP 1645
B. AV	1,39	Wilks, A. F., Kurban, R. R. Hovens, C. M. and	Author, Title, Date, Pertinent Pages,	etc.)
EE 312	140	Wilks, A. F., Kurban, R. R., Hovens, C. M., and cloning members of the protein tyrosine kinase f Wilson, W., Hawley S. and Hardis D. "Clark"	Raiph, S. J. "The application of the amily." Gene 85: 67–74 (1989)	polymerase chain reaction to
	140	activated by phosphorylation under derepressing	e repression/derepression in budding	yeast: SNF1 protein kinase is
	141	Curr. Biol. 6: 1426-1434 (1996)	and this contendes with	a high AMP:ATP ratio."
		Woods, A., Cheung, P. C., Smith, F. C., Davison AMP-activated protein kinase beta and gamma st Biol. Chem. 271: 10282-10290 (1996).	, M. D., Scott, J., Beri, R. K., and Ca	urling, D. "Characterization of
F-+-	142	Blot. Chem. 271: 10282-10290 (1906)	and a recemply of me nefero-filli	enc complex in vitro" /
	142	Wyllie, A. H., Arends, M. J., Morris, R. G., Walk regulation." Semin. Immunol. 4: 389–397 (1992).	er, S. W., and Evan, G. "The apopto	sis endonuclease and its
	143	Fang, X., Hubbard, E. J., and Carlson, M. "A pro Science 257: 680–682 (1992)	tein kinase substrate identified by the	e two-hybrid system "
	144	Yang, X., Jiang, R., and Carlson, M. "A family of		
	145	Yi, T. L., Bolen, I. B. and Ible, I. M. "II-	трек. Емьо 3. 13: 38/8-3886 (19	994).
	146	Yi, T. L., Bolen, J. B., and Ihle, J. N. "Hematopoi acids in the amino terminus." Mol. Cell. Biol. 11:	ene cens express two forms of lyn ki 2391–2398 (1991).	inase differing by 21 amino
		dependent protein kinase I contains closely associate		f calcium/calmodulin-
 	147	Chem. 270: 23851-23859 (1905)	and calmodulin-b	oinding domains." J. Riol
		Yokokura, H., Terada, O., Naito, Y., and Hidaka, I Ca21/calmodulin-dependent protein kinase I isofor Yu, G., Smithgall, T. E., and Glazer, R. I. "K 562 Is	H. "Isolation and comparison of rat c	DNAs encoding
	148	Yu, G., Smithgall, T. E., and Glazer, R. I. "K562 leability to undergo myeloid differentiation." J. Biol.	eukemia cells transfected with the hi	8–12 (1997).
	49	Liegler, S. F. Marth I D. Lauria D. D. I.	-10270-10281 (1989).	9
	50	Zimmermann F Kaufmann I Beaut	11gui. Wol. Cell. Blot. 1: 22/6-2285	5 (1987). I
BY		Zimmermann, F., Kaufmann, I., Rasenberger, H., a Saccharomyces cerevisiae: Genes involved in the d	nd Haussman, P. "Genetics of carbon erepression process." Mol. Gar. Com-	n catabolite repression in
				et. 154: 95–103 (1977).
	+			
	_			
,				
	4_			
Examiner Sic	Inc.			

*Examiner Signature:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in cohformance and not considered. PTO-1449.doc